

MODEL ZUK - LARGE THRU-BORE ROTARY PULSE GENERATORS



GENERAL DESCRIPTION

The ZUK is a high performance unit that is ideal for fast revving motor mount applications. This industrial strength model features the largest thru bore available in a 2.5" encoder, mounting directly on shafts as large as 1.125" (28 mm.) The injection molded housing is grooved with "cooling fins", and can take the extreme heat of the motion control industry.

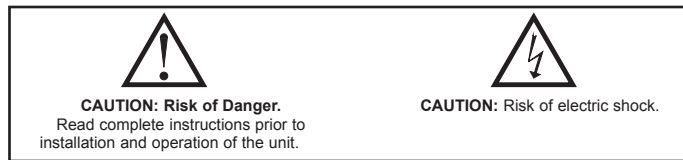
The ZUK comes equipped with a 3 point Flex Mount adapting to both 2.25" and 2.75" motor faces. It is also available with an optional "tether arm" mounting kit for additional motor compatibility.

This revolutionary encoder can also be adapted to various standard and metric sized motor shafts by using an accessory sleeve kit, or individual sleeves (Sold separately).

Electrically the ZUK offers NPN open collector outputs, each limited to 100 mA. The outputs are standard quadrature with index and are also available with quadrature reverse phasing for the typical motor drive controller application. The quadrature separation is 90° with output A leading output B for clockwise rotation. Output B leads output A for the reverse phased output, for clockwise rotation.

SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

- SUPPLY VOLTAGE:** 4.75 to 28 VDC, 100 mA max. (no load)
- OUTPUTS:** NPN Open Collector Transistor, $V_{OH} = 30$ VDC max.; 20 mA max. current. Incremental - two square waves in quadrature with A leading B for clockwise rotation.
- MAX. PULSE RATE:** 250 KHz
- INDEX:** NPN Open Collector Transistor, $V_{OH} = 30$ VDC max.; 20 mA max. current. Once per revolution centered over output Channel A. Index is a positive going pulse.
- MIN EDGE SEP:** 45° electrical min, 63° electrical or better typical
- RISE TIME:** Less than 1 microsecond
- ACCURACY:** Within 0.1° mechanical from one cycle to any other cycle, or 6 arc minutes.

MECHANICAL SPECIFICATIONS

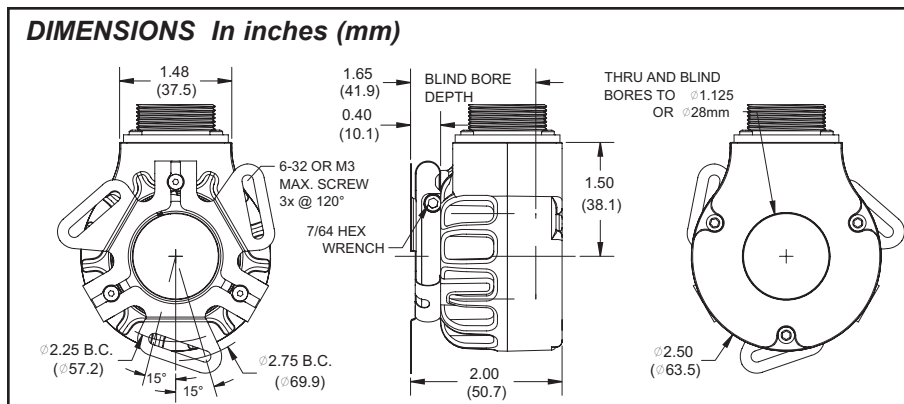
- MAXIMUM MECHANICAL SPEED:** 4000 RPM
- BORE SIZE:** 1.125" (28.58 mm)
- BORE TOLERANCES:** $-0.0000/+0.0008$ "
- USER SHAFT TOLERANCES:**
Radial Runout: 0.005" max
Axial Endplay: ± 0.050 " max
- STARTING TORQUE:** 4.0 oz-in typical (28.24 N-mm) IP66
- MOMENT OF INERTIA:**
 7.6×10^{-4} oz-in-sec²
- MAX ACCELERATION:** 1×10^5 rad/sec²
- ELECTRICAL CONNECTOR:** 7-pin MS type connector

| FUNCTION | PIN | CABLE WIRE COLOR |
|----------|-----|------------------|
| +VDC | A | Red |
| Common | B | Black |
| Data A | C | White |
| Data B | D | Green |
| Data Z | E | Orange |
| CASE | F | Bare |

- HOUSING:** Nylon composite
- MOUNTING:** 2.25" to 2.75" B.C. 3-point flex mount
- WEIGHT:** 8 oz. (226.7 g)

ENVIRONMENTAL SPECIFICATIONS

- OPERATING TEMPERATURE:** -20°C to 85°C
- STORAGE TEMPERATURE:** -20°C to 85°C
- HUMIDITY:** 98% RH non-condensing
- VIBRATION:** 20 g @ 5 to 2000 Hz
- SHOCK:** 80 g @ 11 msec duration
- SEALING:** IP66



Open Collector Output Wiring

The ZUK series of sensors have open collector outputs. An open collector output brings the uncommitted collector of the encoder switching device to the external world. Because the collector element is not associated with the sensor supply voltage, the sensor output collector may be "pulled up" to external voltages different than the encoder supply voltage (30 VDC maximum). NPN open collector outputs are current sinking devices. An output signal will not be generated unless a pull-up resistor is connected from the open-collector to the positive side of an external supply. The same supply can be used for powering the unit and for the pull-up resistor.

ORDERING INFORMATION

| MODEL NO. | DESCRIPTION | PPR | PART NUMBER |
|-----------|--|------|-------------|
| ZUK | 1.125" Large Thru-Bore Rotary Pulse Generators | 60 | ZUK0060H |
| | | 100 | ZUK0100H |
| | | 500 | ZUK0500H |
| | | 600 | ZUK0600H |
| | | 1000 | ZUK1000H |
| | | 1200 | ZUK1200H |
| | | 2000 | ZUK2000H |
| | | 2500 | ZUK2500H |



Do not dispose of unit in trash - Recycle

ACCESSORIES

| MODEL NO. | DESCRIPTION | PART NUMBER |
|-----------|---|-------------|
| CCBRPG | 7-Pin MS Connector | CCBRPG00 |
| | 7-Pin MS Connector with 10 ft 24 AWG 5 Conductor Cable w/drain | CCBRPG02 |
| | 7-Pin MS Connector with 20 ft 24 AWG 5 Conductor Cable w/drain | CCBRPG03 |
| RPGBI | Inch Bore Insert Kit (includes 0.5, 0.625, 0.875, and 1 inch sleeves) | RPGBI00 |
| | Large Metric Bore Insert Kit (includes 19, 20, 24, and 25 mm sleeves) | RPGBI00 |
| RPGBSI | 0.500 Inch Bore Sleeve | RPGBSI00 |
| | 0.625 Inch Bore Sleeve | RPGBSI01 |
| | 0.750 Inch Bore Sleeve | RPGBSI02 |
| | 0.875 Inch Bore Sleeve | RPGBSI03 |
| | 1 Inch Bore Sleeve | RPGBSI04 |
| RPGBSM | 19 mm Bore Sleeve | RPGBSM00 |
| | 20 mm Bore Sleeve | RPGBSM01 |
| | 24 mm Bore Sleeve | RPGBSM02 |
| | 25 mm Bore Sleeve | RPGBSM03 |
| RPGMK | Standard Tether Arm Kit 4.5 Inch | RPGMK002 |
| | Elongated Tether Arm Kit 8.5 Inch | RPGMK003 |
| RPGMB * | Magnetic Coupling Kit (0.625 inch shaft) | RPGMB001 |
| RPGPC | 56C Protective Cover | RPGPC000 |

* ZUK encoders require 0.625 " bore sleeve to accommodate magnetic coupling.

Only factory stocked part numbers are listed. Consult Factory for part number and availability of other PPR and output configurations.

LIMITED WARRANTY

The Company warrants the products it manufactures against defects in materials and workmanship for a period limited to two years from the date of shipment, provided the products have been stored, handled, installed, and used under proper conditions. The Company's liability under this limited warranty shall extend only to the repair or replacement of a defective product, at The Company's option. The Company disclaims all liability for any affirmation, promise or representation with respect to the products.

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